

Thank you, Ron! Huge thanks to you and your Team for finding innovative ways to reduce our energy costs.

I would like to recognize General Bruce Carlson, Commander of Air Force Material Command, for support of this Forum. Under his command we have Major General Ted Bowlds, Commander of the Air Force Research Lab, and Tom Naguy (Nay-guy) who provided the resources.

While the Air Force is host, we are pleased to have the Office of the Secretary of Defense sponsoring the meeting. We have senior leaders from the Army, Navy, Department of Energy, EPA, USDA, and FAA. Thanks to you all.

It is a special pleasure to have you here, Administrator Blakey [head table].

I'm honored to talk with you about the Air Force's Energy Strategy, our goals and vision. One of the most important things the Air Force can do for the nation is to work with industry on this mission. In that respect, in this meeting the Air Force is reaching out so we can keep drawing on leading-edge American technology.

I'm proud to say the Air Force leads the way in using alternative and renewable energy sources and finding new ways to conserve. But, as anyone with a tough boss knows, that's great, but, "What have you done for me lately?"

So, I'd like to offer my perspective on energy and how we will do even more to reduce demand and increase supply for our facilities, vehicles, and aircraft.

In his State of the Union Address last January, President Bush said, “For too long our nation has been dependent on foreign oil. And this dependence leaves us more vulnerable to hostile regimes, and to terrorists – who could cause huge disruptions of oil shipments, raise the price of oil, and do great harm to our economy.”

In the last few months, we’ve seen alarming signs, for example, Iran’s President visiting Venezuela which recently nationalized its oil industry. The leaders of both countries have serious issues with the United States.

Venezuela exports just over a million barrels of oil to the United States per day, which makes them #4 on our oil import list, behind Canada, Saudi Arabia, and Mexico.

The US is the number #1 importer of Venezuelan oil, so we have a symbiotic relationship at the moment, as our not buying their oil would hurt their economy as well. Ads offering our citizens discounts to talk favorably about them tell a huge political story all by themselves and potentially describes a frightening future.

Iran can wreak havoc in the Straits of Hormuz, where about 18 million barrels per day of Gulf oil, about 40 percent of all internationally traded oil, is exported.

The Strait at its narrowest is 34 miles across, splitting shipping into two sea lanes just two miles wide when entering and exiting the Gulf. Iran does need oil revenue to keep their country running, but the threat remains.

I will leave the politics of oil and its impact on our economy to the White House and State Department.

However, when it comes to defending our nation and the fuel required, we must offer the nation a hedge against a future that some discount, but none can take off the table.

We must look for domestic sources of alternative fuels. We must hedge against being dependent upon imported oil.

We fully recognize the nation would support our legal authority to have first-option with domestic resources.

However, protecting our nation includes protecting its economic infrastructure.

The Air Force is proud to be one of the technology spark plugs for America, and we are the largest consumer of energy in the federal government, and so are actively

involved in seeking solutions to this problem. While the entire DOD is less than 2% of the total energy consumed in this country, we do have an opportunity make substantial purchases of alternative and renewable fuels.

Of course we want to buy at competitive market prices, which is why we are working closely with industry and other federal agencies to ensure that we are moving together.

The Air Force mission states that we provide the President Sovereign Options. In this case, it means seeking a hedge so imported oil has minimal impact.

Greater energy efficiency in our vehicles, facilities and aircraft is the first step. Alternative and renewable fuels provide options that we are only beginning to discover. With this in mind, let me turn to the Air Force Energy Vision.

I know DoD's interest in energy and have been working on it for almost six years. In my last job, in the role of Under Secretary of Defense for Acquisition, Technology, and Logistics, funding for Energy and Power initiatives more than doubled in four years.

And in the Air Force, our strategic vision is to create a culture where we, as Airmen, incorporate energy as a consideration in everything we do.

I'm committed to developing this culture. Last September in a Letter to all Airmen, I talked about Energy Conservation. Under the auspices of Air Force Smart Operations for the 21st Century or AFSO21, I have asked every Airman to make energy a priority and to bring ideas forward on how we can be more energy efficient.

The technical prowess of the Air Force and our greater use of Lean Processes captured in the AFSO21 initiative position us to expand the lead.

Together, we can decrease our resource use, freeing up funds and energy. The question becomes, “What strategy do we employ to get us there?”

The answer boils down to supply and demand. Our strategy is to expand our assured energy supply by finding additional alternative energy sources and to decrease demand by aggressively reducing energy use, underpinned by a culture of Energy Conservation. Controlling supply and demand allows us to hold energy costs in check.

We are serious about being a global leader in facility energy conservation and renewable energy supply. Last

year we chartered a Senior Focus Group, chaired by the Under Secretary Ron Segal, and set its strategic vision of making energy a consideration in all Air Force actions.

This Senior Focus Group provides oversight and advocacy to ensure we meet the goals of Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management signed 24 January 2007. One goal focuses on renewable energy procurement to encourage new affordable sources.

With this in mind, let's look at energy alternatives through two lenses: Aviation and Infrastructure.

As to Aviation, in the State of the Union Address, President Bush said "It's in our vital interest to diversify America's energy supply – and the way forward is through technology." Embracing this philosophy, the AF is working

hard to expand the Supply side of the energy equation by researching alternative fuels that meet aviation standards.

Last year, the AF spent about \$6.6B on aviation fuel, \$1.6B dollars more than budgeted. In 2005, the fuel budget was \$1.4B more than the previous year.

We could have paid for a supplier to build a dedicated Coal, Natural Gas, or other derived fuel plant with this \$3B in unbudgeted expense. Maybe then we could have a predictable cost for fuel.

The problem is exacerbated by recent gas price instability. For example, when a barrel of oil increases by \$10, it costs the Air Force about \$600M annually. I know this is multiplied ten times for the airlines.

[pause] Dr. Segal would say, “Houston...we have a problem” [humor]... and today I’ll take it a step further and say “America...we have a problem.”

The importance of price stability is the same for government and industry. If we know the price for energy, we can budget for it. Unfortunately, we did not have this luxury the past few years when we had to go back to Congress for supplemental appropriations.

To bring down these costs and, even more importantly, to provide an assured source of fuel, we are accelerating the development and use of alternative fuels. We are particularly interested in making synthetic aviation fuel.

Last September, in the B-52 flight test at Edwards AFB, we used a 50/50 mix of JP-8 and synthetic fuel in two

of the eight engines. The fuel was derived from natural gas using the “Fischer-Tropsch” process.

Since then, the B-52 has flown with all eight engines using synfuel-blend. It finished cold-weather testing at Minot AFB, the last step in the testing and certification process. The data from both Minot and Edwards will be analyzed, and a complete test report is scheduled in June.

In our B-52 test, we used synthetic fuel from natural gas. However, the United States has the largest coal deposits in the world. We are the “Middle East of coal.”

In the next few years, power companies are planning to build 150 coal plants to meet growing electricity demand. We must keep on this path, finding ways to use and improve the tried and true Fischer-Tropsch process for the production of synthetic fuel from coal.

The big issue is the sequestration of large amounts of carbon dioxide before it's released into the atmosphere. The DOE National Energy Technology Laboratory and several others are now working on the development of carbon capture technology that approaches 90%.

Our team at Wright-Patterson also are working on a study with DOE to find the right mix of biomass and coal to reduce CO2 emissions starting with the feedstock.

We aim to be good stewards of the environment and yet push for the production and purchase of domestically produced synfuel from plants that use coal, natural gas or other derivation that incorporate greenhouse gas reduction processes to provide the right fuel in the right manner.

To expand the demand for synfuel in this country, the Air Force will need support from the airlines. I know that

under Administrator Blakey's leadership the FAA is taking an important role with the airlines, the OEM's, and airports to expedite their testing and certification of synfuel.

The buying power of the airlines, which constitutes approximately 85% of the market, will be important for the Air Force and the synfuel industry.

Our efforts include work with oil shale, tar sands, and biomass. DoD is on the Unconventional Fuels Task Force that includes DOE, DOI and Governors from Kentucky, Mississippi, Utah, Colorado and Wyoming.

The Task Force will recommend how the development of these unconventional fuels can be accelerated in the United States. This collaborative effort has the potential to be a "tipping point" as we explore energy options. There is

no “silver bullet”, and it will take a combination of resources to meet the energy needs of our country.

As to biomass, currently the BTU concentration in pure biomass product is insufficient for jet engine use; however, we are working with DOE to study a mixed feed stock of biomass and coal that may result in a jet-quality fuel.

All this effort can be viewed as energy security. It also has the potential to unite the farm states and coal states, and provides a different source for economic and energy well-being when it comes to future sources of energy.

The Air Force is committed to completing its testing and certification of synfuels for our aircraft fleet by 2010. Working with industry we can accomplish this goal. Once accomplished we look forward to buying domestically produced synfuel at competitive market prices.

This year we are buying 206,000 gallons and NASA is buying 9,000 gallons for our respective testing programs. The RFP is on DLA's website now.

Which leads to our next goal, especially if the sources can be competitive: the Air Force aims to acquire 50% of our CONUS fuel from a synfuel-blend produced domestically by 2016. At current consumption, this equates to some 325 million gallons at a 50/50 blend.

While not staggering, this is a start and could increase if we move away from a synfuel-blend to pure synfuel or the market forces are improved for synfuel.

We are also making strides on the Supply side, with installations and vehicles. We are the #1 purchaser of renewable energy in the nation and #3 on the planet. The

Air Force earned the FY04/FY05 Green Power Partnership Award and the 2006 EPA Climate Protection Award.

Also, for the third year in a row, the Air Force tops the EPA's list of Top 10 federal government green power purchasers. In 2006, the Air Force purchased almost one million megawatt-hours accounting for almost 10% of all Air Force electricity consumption, which includes thirty-seven Air Force installations. In other words, we purchased green power for almost 70,000 homes for a year!

These honors enhance the growth of an important renewable market that also serves to reduce demand on the grid or for oil. Leadership in renewable energy for the Federal government is something we do not take lightly, and we aim to keep earning that leadership position.

I want to highlight some accomplishments that led to these awards:

-- Dyess AFB is operating on 100% renewable energy with Minot and Fairchild not far off with 95.7% and 99.6%.

-- At Nellis AFB, we awarded a contract to build the biggest photovoltaic solar farm IN THE WORLD, on track to generate 18Mega-Watts in late 2008.

-- Wind farms at FE Warren and Ascension Island are producing 1.3 and 2.7 Mega-Watts..

-- At Hill AFB, we have a 1.3 Mega-Watts landfill gas project and have been since 2004.

The Air Force has several initiatives on the supply side of transportation energy. Three are notable.

First, the tests at Selfridge Air National Guard Base, Michigan are centered on aviation and diesel fuel SynFuel, derived from natural gas products, for vehicles and ground support equipment. We are testing both a 100 percent SynFuel and a 50-50 blend. Results are positive.

And, at Nellis AFB, AFRL is testing a product called O2Diesel (TM). The "O₂DieselTM Ethanol-Diesel Demonstration" project is a new liquid "alternative fuel" anticipated to achieve at least a 20% displacement of fossil fuel, meet air quality compliance goals, and compliance with the intent of Executive Order 13423.

Third is the hydrogen facility at Hickam AFB.

Assistant Secretary Bill Anderson was there to cut the ribbon with the Governor of Hawaii and Senator Akaka [pronounced “a KAKA] to show our partnership with the State of Hawaii and emphasize the importance of this deployable hydrogen refueling station as a future energy resource.

Now, let’s look at initiatives reducing energy demand.

In Aviation, over the last year, the Air Force discovered novel ways to reduce aviation fuel demand. For example, we continue our efforts to replace the most inefficient engines. We have completed re-engining of the KC-135Rs and will be ramping up on the C-5 fleet.

This should generate savings to recoup all of the modification costs by 2029. Not only are the new engines more efficient, they also provide much better performance.

We are also making more efficient airframes through wing design and adding “winglets” to wing tips. This produces a second-order effect: Better fuel efficiency means fewer tanker refuel missions, and, greater range.

In addition to looking for efficiencies with engines and platform designs, we are exploring ways to reduce aircraft loading weight and optimize air routing, when possible.

We are refining Tactics, Techniques, and Procedures. The goal: More efficient routes and cargo load optimization — when it doesn’t impact the mission.

Through AFSO21 we are seeking to reduce aviation fuel use by 10% in the near future. We will do more with less, at less cost.

Although aviation energy costs are most of our energy bill, the last piece of the equation is one that each Airman can influence — demand at the base and facility levels.

The Senior Focus Group I mentioned earlier provides oversight and advocacy to meet the goals of the Executive Order. Another aggressive goal the Executive Order establishes reduces energy consumption by 3% per year—a doubling of older mandates.

It also enhances sustainable building goals, and adds a water conservation goal of 2% per year - I'd like to

highlight areas where the Air Force is making significant progress.

The Air Force is strengthening our energy programs with Base level Energy Management Steering Groups and energy managers through Major Command and Headquarters Air Force governance groups.

We are building an investment program based on high value initiatives that save energy and mitigate the impact of rising utility costs. We are hiring energy professionals to assist our Major Commands and installations to audit facilities and target the right initiatives.

Our strategy yields return on investment that can be measured in a few years. But it is not a strategy that can be completed in a narrow window of “energy fervor.” It takes reinvestment in distribution systems and equipment.

The synergy of demand-side conservation, sustainable designs in high performance buildings, third-party investment from Energy Savings Performance Contracts (ESPC) and Utility Energy Savings Contracts (UESC), aggressive utility rates intervention and negotiations, and investments in new renewable energy sources will reduce our reliance on foreign oil and fossil fuels.

Reductions in fossil fuels usage will reduce the release of damaging green house gases into earth's atmosphere for the health and safety of everyone.

From a transportation perspective, the major initiative is our policy on Low Speed Vehicles, to boost alternative fuel consumption in accord with Executive Order 13423. Low Speed Vehicles are electric, designed to perform at speeds of 25-30 MPH. Since the speed limit on most Air

Force bases is 30 MPH, purchasing Low Speed Vehicles provides an outstanding energy-efficient opportunity.

This is already an AFSO21 High Value Initiative and we will purchase almost 600 Low-Speed Vehicles this year to ensure we reach our goal to have 30% of our applicable vehicles to be Low-Speed Vehicles by FY10.

This will be the catalyst for the AF's effort to reduce fossil fuel consumption by 2% a year while facilitating greater use of alternative fuels by 10% by 2015.

For four years now the USAF has exceeded EPA requirements for acquisition of alternative fuel vehicles. The Air Force is building on a history of facility energy conservation success. Our initiatives enhance our campaign to meet or exceed the goals of the new Executive Order.

These initiatives not only help close the gap in our utility budget, but help best use the resources that the taxpayers entrust to us for our Mission as warfighters

This gives a brief glimpse of the AF Energy Vision and our Strategy. Working with industry, our sister services, and other federal partners, we can expand the Air Force Energy Vision and make it a vision for the entire country.

To the men and women in uniform in this room and at bases around the world, I'm very proud of what you are doing to conserve energy and explore new sources of domestic, alternative and renewable fuels. I applaud your efforts! You all epitomize the Air Force Core Value: Excellence in All We Do.

Thank you.